

Supplements to EssCD guideline

Supplement 1: GRADE system

GRADE system: Step 1, grade the evidence

A= high quality evidence; B= moderate quality evidence; C= poor quality evidence

If RCTs, start by assuming high quality (grade A), but then grade down for:

- Serious methodologic limitations
- Indirectness in population, intervention, or outcome
- Inconsistent results
- Imprecision in estimates
- High likelihood of publication bias

If no RCTs, start by assuming low quality (grade C), but then grade up for:

- Large, or very large treatment effects
- All plausible biases that would diminish the effect of the intervention
- Dose-response gradient

GRADE system: Step 2, grade the recommendation

1= strong recommendation

2= weak recommendation

	Clarity of risk/benefit	Quality of supporting evidence	Implications
1A. Strong recommendation. High quality evidence.	Benefits clearly outweigh risk and burdens, or vice versa.	Consistent evidence from well-performed RCTs or overwhelming evidence in some other form. Further research is unlikely to change our confidence in estimating benefit and risk.	Strong recommendation, can apply to most patients in most circumstances without reservation.
1B. Strong recommendation. Moderate quality evidence.	Benefits clearly outweigh risk and burdens, or vice versa.	Evidence from RCTs with important limitations (inconsistent results, methodological flaws, indirect or imprecise), or very strong evidence in some other form. Further research (if performed) is likely to have an impact on our confidence in estimating benefit and risk and may change the estimate.	Strong recommendation, likely to apply to most patients.
1C. Strong recommendation. Low quality evidence.	Benefits appear to outweigh risk and burdens, or vice versa.	Evidence from observational studies, unsystematic clinical experience, or from RCTs with serious flaws. Any estimate of effect is uncertain.	Relatively strong recommendation; might change when higher quality evidence becomes available.
2A. Weak recommendation. High quality evidence.	Benefits closely balanced with risks and burdens	Consistent evidence from well performed RCTs or overwhelming evidence in some other form. Further research is unlikely to change our confidence in the estimate of benefit and risk.	Weak recommendation, best action may differ depending on circumstances or patients or social values.
2B. Weak recommendation. Moderate quality evidence.	Benefits closely balanced with risks and burdens, some uncertainty in the estimates of benefits, risks and burdens	Evidence from randomized, controlled trials with important limitations (inconsistent results, methodological flaws, indirect or imprecise), or very strong evidence in some other form. Further research (if performed) is likely to have an impact on our confidence in estimating benefit and risk and may change the estimate.	Weak recommendation, alternative approaches likely to be better for some patients under some circumstances.
2C. Weak recommendation. Low quality evidence.	Uncertainty in the estimates of benefits, risks, and burdens; benefits may be closely balanced with risks and burdens.	Evidence from observational studies, unsystematic clinical experience, or from RCTs with serious flaws. Any estimate of effect is uncertain.	Very weak recommendation; other alternatives may be equally reasonable.

Table S1: Narratives detailing the evidence and grade of recommendations

Supplement 2:

List of Abbreviations

AGA	anti Gliadin antibodies	IELs	Intraepithelial lymphocytes
BMI	Body Mass Index	IL	Interleukin
CD	Coeliac disease	INF	Interferon
2-CDA	Cladribine (2-chloro-2'-deoxyadenosine)	6MMMP	6-methylmercaptopurine
CVID	Common Variable Immune Deficiency	MRI	Magnetic Resonance Imaging
DBE	Double balloon enteroscopy	NCGS	Non-Coeliac Gluten Sensitivity
DEXA	Dual-energy X-ray absorptiometry	PET	Positron emission tomography
DGP	Deamidated Gliadin Antibodies	POCT	Point-of-care test
DH	Dermatitis herpetiformis	PPV	Positive predictive value
DIF	Direct immunofluorescence	Pre-EATL	Low-grade lymphoma
EATL	Enteropathy associated T-cell lymphoma	QoL	Quality of Life
ELISPOT	Enzyme-linked immunospot	RCD	Refractory Coeliac disease
EMA	Endomysium antibodies	SNCD	Seronegative Coeliac disease
ESPGHAN	European Society for Paediatric Gastroenterology, Hepatology, and Nutrition	SNP	Single nucleotide polymorphism
GA	Gluten ataxia	SR-	Slow release
GFD	Gluten Free Diet	T1DM	Type I diabetes mellitus
GI	Gastrointestinal	TCR γ	T cell receptor γ
GIPs	Gluten Immunogenic Peptides	6-TGN	6-thioguanine nucleotides
GWAS	Genome-wide association studies	TG (2,3,6)	Tissue Transglutaminase 2,3,6
HLA	Human Leucocyte Antigen	ULN	Upper limit of normal
IBD	Inflammatory Bowel disease	VA	Villous Atrophy
IBS	Irritable Bowel syndrome	VCE	Video capsule endoscopy
		WA	Wheat allergy

Supplement 3: Acknowledgement

The guideline is been endorsed by the Association of European Coeliac Societies (AOECS) as a representative of coeliac patients organizations.

Supplement 4: Expert committee

Knut EA Lundin; President of ESsCD board; Department of Gastroenterology, Oslo University Hospital Rikshospitalet, Oslo, Norway and KG Jebsen Coeliac Disease Research Centre, University of Oslo, Oslo, Norway.

Chris JJ Mulder; Department of Gastroenterology, VUMC, Amsterdam the Netherlands.

Umberto Volta; Department of Medical and Surgical Sciences, University of Bologna, Italy.

David S Sanders; Gastroenterology and Liver Unit, Royal Hallamshire Hospital & University of Sheffield, Sheffield, UK.

Christophe Cellier; Université Paris Descartes-Sorbonne Paris Centre; Gastroenterology Department, Hôpital Européen Georges Pompidou Assistance Publique des Hôpitaux de Paris, Paris, France.

* **Renata Auricchio;** Department of Translational Medical Science, Section of Paediatrics, University of Naples, Italy.

* **Gemma Castillejo;** Department of Paediatric Gastroenterology, Hospital Universitari Sant Joan de Reus, Universitat Rovira I Virgili, IISPV, Spain.

* Drs Renata Auricchio and Gemma Castillejo are board representatives nominated by the European Society for Pediatric Gastroenterology, Hepatology and Nutrition (ESPGHAN).

Supplement 5: Declaration of conflicting interests:

Professor Sanders has received educational research grants from Dr Schaer (a gluten-free food manufacturer) and Tillotts Pharma (distributor of a POCT for CD) for investigator-led studies. Dr Schaer and Tillott's Pharma did not have any input in the study design, access to study data, interpretation of the findings or drafting of the manuscript.

Professor Lundin: KEAL has been involved in clinical trials conducted by Alvine Pharmaceutical, Cellimune and Dr. Falk Pharma.

The other authors declare that there is no conflict of interest.

Supplement 6: Funding:

No external funding was provided.

Supplement 7: References

1. Atkins D, Best D, Briss PA, et al. Grading quality of evidence and strength of recommendations. *BMJ*. 2004;328(7454):1490. doi:10.1136/bmj.328.7454.1490.
2. Jabri B, Sollid LM. Mechanisms of disease: immunopathogenesis of celiac disease. *Nat Clin Pract Gastroenterol Hepatol*. 2006;3(9):516-525. doi:10.1038/ncpgasthep0582.
3. Ludvigsson JF, Leffler DA, Bai JC, et al. The Oslo definitions for coeliac disease and related terms. *Gut*. 2013;62(1):43-52. doi:10.1136/gutjnl-2011-301346.
4. Caproni M, Antiga E, Melani L, Fabbri P. Guidelines for the diagnosis and treatment of dermatitis herpetiformis. *J Eur Acad Dermatology Venereol*. 2009;23(6):633-638. doi:10.1111/j.1468-3083.2009.03188.x.
5. Hadjivassiliou M, Sanders DS, Grünewald RA, et al. Gluten sensitivity: from gut to brain. *Lancet Neurol*. 2010;9(3):318-330. doi:10.1016/S1474-4422(09)70290-X.
6. Aziz I, Hadjivassiliou M, Sanders DS. The spectrum of noncoeliac gluten sensitivity. *Nat Rev Gastroenterol Hepatol*. 2015;12(9):516-526. doi:10.1038/nrgastro.2015.107.
7. Fasano A, Sapone A, Zevallos V, Schuppan D. Nonceliac gluten sensitivity. *Gastroenterology*. 2015;148(6):1195-1204. doi:10.1053/j.gastro.2014.12.049.
8. Ludvigsson JF, Murray JA. Epidemiology of Celiac Disease. *Gastroenterol Clin North Am*. 2019;48(1):1-18. doi:10.1016/j.gtc.2018.09.004.
9. Catassi C, Gatti S, Fasano A. The New Epidemiology of Celiac Disease. *J Pediatr Gastroenterol Nutr*. 2014;59:S7-S9. doi:10.1097/01.mpg.0000450393.23156.59.
10. Fasano A, Berti I, Gerarduzzi T, et al. Prevalence of celiac disease in at-risk and not-at-risk groups in the United States: a large multicenter study. *Arch Intern Med*. 2003;163(3):286-292.
11. Catassi C, Kryszak D, Bhatti B, et al. Natural history of celiac disease autoimmunity in a USA cohort followed since 1974. *Ann Med*. 2010;42(7):530-538. doi:10.3109/07853890.2010.514285.
12. Rubio-Tapia A, Van Dyke CT, Lahr BD, et al. Predictors of family risk for celiac disease: a population-based study. *Clin Gastroenterol Hepatol*. 2008;6(9):983-987. doi:10.1016/j.cgh.2008.04.008.
13. Book L, Zone JJ, Neuhausen SL. Prevalence of celiac disease among relatives of sib pairs with celiac disease in U.S. families. *Am J Gastroenterol*. 2003;98(2):377-381. doi:10.1111/j.1572-0241.2003.07238.x.
14. Nisticò L, Fagnani C, Coto I, et al. Concordance, disease progression, and heritability of coeliac disease in Italian twins. *Gut*. 2006;55(6):803-808. doi:10.1136/gut.2005.083964.
15. van Heel DA, Franke L, Hunt KA, et al. A genome-wide association study for celiac disease identifies risk variants in the region harboring IL2 and IL21. *Nat Genet*. 2007;39(7):827-829. doi:10.1038/ng2058.
16. Wolters VM, Wijmenga C. Genetic background of celiac disease and its clinical implications. *Am J Gastroenterol*. 2008;103(1):190-195. doi:10.1111/j.1572-0241.2007.01471.x.
17. Megiorni F, Pizzuti A. HLA-DQA1 and HLA-DQB1 in Celiac disease predisposition: practical implications of the HLA molecular typing. *J Biomed Sci*. 2012;19(1):88. doi:10.1186/1423-0127-19-88.
18. Sollid LM, Markussen G, Ek J, Gjerde H, et al. Evidence for a primary association of celiac disease to a particular HLA-DQ alpha/beta heterodimer. *J Exp Med*. 1989;169(1):345-350.
19. Abadie V, Sollid LM, Barreiro LB, Jabri B. Integration of genetic and immunological insights

- into a model of celiac disease pathogenesis. *Annu Rev Immunol.* 2011;29(1):493-525. doi:10.1146/annurev-immunol-040210-092915.
20. Al-Toma A, Goerres MS, Meijer JWR, et al. Human Leukocyte Antigen-DQ2 Homozygosity and the Development of Refractory Celiac Disease and Enteropathy-Associated T-Cell Lymphoma. *Clin Gastroenterol Hepatol.* 2006;4(3):315-319. doi:10.1016/j.cgh.2005.12.011.
21. Dubois PCA, Trynka G, Franke L, et al. Multiple common variants for celiac disease influencing immune gene expression. *Nat Genet.* 2010;42(4):295-302. doi:10.1038/ng.543.
22. Szajewska H, Shamir R, Chmielewska A, et al. Systematic review with meta-analysis: early infant feeding and coeliac disease--update 2015. *Aliment Pharmacol Ther.* 2015;41(11):1038-1054. doi:10.1111/apt.13163.
23. Vriezinga SL, Auricchio R, Bravi E, et al. Randomized feeding intervention in infants at high risk for celiac disease. *N Engl J Med.* 2014;371(14):1304-1315. doi:10.1056/NEJMoa1404172.
24. Lionetti E, Castellaneta S, Francavilla R, et al. Introduction of gluten, HLA status, and the risk of celiac disease in children. *N Engl J Med.* 2014;371(14):1295-1303. doi:10.1056/NEJMoa1400697.
25. Welander A, Tjernberg AR, Montgomery SM, et al. Infectious disease and risk of later celiac disease in childhood. *Pediatrics.* 2010;125(3):e530-6. doi:10.1542/peds.2009-1200.
26. Riddle MS, Murray JA, Porter CK. The incidence and risk of celiac disease in a healthy US adult population. *Am J Gastroenterol.* 2012;107(8):1248-1255. doi:10.1038/ajg.2012.130.
27. Kahrs CR, Chuda K, Tapia G, et al. Enterovirus as trigger of coeliac disease: nested case-control study within prospective birth cohort. *BMJ.* 2019;364:l231. doi:10.1136/bmj.l231.
28. Mulder CJ, Cellier C. Coeliac disease: changing views. *Best Pract Res Clin Gastroenterol.* 2005;19(3):313-321. doi:10.1016/j.bpg.2005.01.006.
29. Turner JM. Diagnosis of Celiac Disease: Taking a Bite Out of the Controversy. *Dig Dis Sci.* 2018;63(6):1384-1391. doi:10.1007/s10620-018-5050-3.
30. Vujasinovic M, Tepes B, Volfand J, Rudolf S. Exocrine pancreatic insufficiency, MRI of the pancreas and serum nutritional markers in patients with coeliac disease. *Postgrad Med J.* 2015;91(1079):497-500. doi:10.1136/postgradmedj-2015-133262.
31. Lebwohl B, Rubio-Tapia A, Assiri A, et al. Diagnosis of celiac disease. *Gastrointest Endosc Clin N Am.* 2012;22(4):661-677. doi:10.1016/j.giec.2012.07.004.
32. van der Windt DA, Jellema P, Mulder CJ, et al. Diagnostic Testing for Celiac Disease Among Patients With Abdominal Symptoms. *JAMA.* 2010;303(17):1738. doi:10.1001/jama.2010.549.
33. Fasano A. Clinical presentation of celiac disease in the pediatric population. *Gastroenterology.* 2005;128(4 SUPPL. 1):S68-73. doi:10.1053/j.gastro.2005.02.015.
34. Virta LJ, Kaukinen K, Collin P. Incidence and prevalence of diagnosed coeliac disease in Finland: results of effective case finding in adults. *Scand J Gastroenterol.* 2009;44(8):933-938. doi:10.1080/00365520903030795.
35. Korppimäki S, Kaukinen K, Collin P, et al. Gluten-Sensitive Hypertransaminasemia in Celiac Disease: An Infrequent and Often Subclinical Finding. *Am J Gastroenterol.* 2011;106(9):1689-1696. doi:10.1038/ajg.2011.134.
36. Sainsbury A, Sanders DS, Ford AC. Meta-analysis: coeliac disease and hypertransaminasaemia. *Aliment Pharmacol Ther.* 2011;34(1):33-40. doi:10.1111/j.1365-2036.2011.04685.x.
37. Kaukinen K, Halme L, Collin P, et al. Celiac disease in patients with severe liver disease: gluten-free diet may reverse hepatic failure. *Gastroenterology.* 2002 Apr;122(4):881-8.

38. Amin R, Murphy N, Edge J, et al. A longitudinal study of the effects of a gluten-free diet on glycemic control and weight gain in subjects with type 1 diabetes and celiac disease. *Diabetes Care*. 2002 Jul;25(7):1117-22.
39. Rewers M, Eisenbarth GS. Autoimmunity: Celiac disease in T1DM-the need to look long term. *Nat Rev Endocrinol*. 2011;8(1):7-8. doi:10.1038/nrendo.2011.193.
40. Mollazadegan K, Kugelberg M, Montgomery SM, et al. A population-based study of the risk of diabetic retinopathy in patients with type 1 diabetes and celiac disease. *Diabetes Care*. 2013;36(2):316-321. doi:10.2337/dc12-0766.
41. Leeds JS, Hopper AD, Hadjivassiliou M, et al. High prevalence of microvascular complications in adults with type 1 diabetes and newly diagnosed celiac disease. *Diabetes Care*. 2011;34(10):2158-2163. doi:10.2337/dc11-0149.
42. Tsui JM, Thompson JS, Kothari VM. Bariatric Procedures Unmasking Celiac Disease. *J Obes Bariatrics*. 2014;1(1):3.
43. Maple JT, Pearson RK, Murray JA, et al. Silent Celiac Disease Activated by Pancreaticoduodenectomy. *Dig Dis Sci*. 2007;52(9):2140-2144. doi:10.1007/s10620-006-9598-y.
44. Harewood GC, Murray JA. Diagnostic approach to a patient with suspected celiac disease: a cost analysis. *Dig Dis Sci*. 2001;46(11):2510-2514.
45. Leffler DA, Schuppan D. Update on Serologic Testing in Celiac Disease. *Am J Gastroenterol*. 2010;105(12):2520-2524. doi:10.1038/ajg.2010.276.
46. Li M, Yu L, Tiberti C, et al. A Report on the International Transglutaminase Autoantibody Workshop for Celiac Disease. *Am J Gastroenterol*. 2009;104(1):154-163. doi:10.1038/ajg.2008.8.
47. Dieterich W, Ehnis T, Bauer M, et al. Identification of tissue transglutaminase as the autoantigen of celiac disease. *Nat Med*. 1997;3(7):797-801.
48. Molberg O, Mcadam SN, Körner R, et al. Tissue transglutaminase selectively modifies gliadin peptides that are recognized by gut-derived T cells in celiac disease. *Nat Med*. 1998;4(6):713-717.
49. Villalta D, Alessio MG, Tampio M, et al. Testing for IgG class antibodies in celiac disease patients with selective IgA deficiency. *Clin Chim Acta*. 2007;382(1-2):95-99. doi:10.1016/j.cca.2007.03.028.
50. Hoerter NA, Shannahan SE, Suarez J, et al. Diagnostic Yield of Isolated Deamidated Gliadin Peptide Antibody Elevation for Celiac Disease. *Dig Dis Sci*. 2017;62(5):1272-1276. doi:10.1007/s10620-017-4474-5.
51. McGowan KE, Lyon ME, Butzner JD. Celiac Disease and IgA Deficiency: Complications of Serological Testing Approaches Encountered in the Clinic. *Clin Chem*. 2008;54(7):1203-1209. doi:10.1373/clinchem.2008.103606.
52. Malamut G, Verkarre V, Suarez F, et al. The Enteropathy Associated With Common Variable Immunodeficiency: The Delineated Frontiers With Celiac Disease. *Am J Gastroenterol*. 2010;105(10):2262-2275. doi:10.1038/ajg.2010.214.
53. Holding S, Wilson F, Spradbery D. Clinical evaluation of the BioPlex 2200 Celiac IgA and IgG Kits — A novel multiplex screen incorporating an integral check for IgA deficiency. *J Immunol Methods*. 2014;405:29-34. doi:10.1016/j.jim.2014.01.002.
54. Aita A, Rossi E, Basso D, et al. Chemiluminescence and ELISA-based serum assays for diagnosing and monitoring celiac disease in children: a comparative study. *Clin Chim Acta*.

- 2013;421:202-207. doi:10.1016/j.cca.2013.03.024.
- 55. Rashtak S, Ettore MW, Homburger HA, Murray JA. Combination testing for antibodies in the diagnosis of coeliac disease: comparison of multiplex immunoassay and ELISA methods. *Aliment Pharmacol Ther*. 2008;28(6):805-813.
 - 56. Rostom A, Dubé C, Cranney A, et al. The diagnostic accuracy of serologic tests for celiac disease: a systematic review. *Gastroenterology*. 2005;128(4 Suppl 1):S38-46.
 - 57. Zanini B, Lanzarotto F, Mora A, et al. Five year time course of celiac disease serology during gluten free diet: results of a community based "CD-Watch" program. *Dig Liver Dis*. 2010;42(12):865-870. doi:10.1016/j.dld.2010.05.009.
 - 58. Mooney PD, Kurien M, Evans KE, et al. Point-of-care testing for celiac disease has a low sensitivity in endoscopy. *Gastrointest Endosc*. 2014;80(3):456-462. doi:10.1016/j.gie.2014.02.009.
 - 59. Condò R, Costacurta M, Docimo R. The anti-transglutaminase auto-antibodies in children's saliva with a suspect coeliac disease: clinical study. *Oral Implantol (Rome)*. 2013;6(2):48-54.
 - 60. Bonamico M, Nenna R, Montuori M, et al. First salivary screening of celiac disease by detection of anti-transglutaminase autoantibody radioimmunoassay in 5000 Italian primary schoolchildren. *J Pediatr Gastroenterol Nutr*. 2011;52(1):17-20. doi:10.1097/MPG.0b013e3181e6f2d0.
 - 61. Kappler M, Krauss-Etschmann S, Diehl V, et al. Detection of secretory IgA antibodies against gliadin and human tissue transglutaminase in stool to screen for coeliac disease in children: validation study. *BMJ*. 2006;332(7535):213-214. doi:10.1136/bmj.38688.654028.AE.
 - 62. Balaban D V, Popp A, Vasilescu F, Haidautu D, Purcarea RM, Jinga M. Diagnostic yield of endoscopic markers for celiac disease. *J Med Life*. 8(4):452-457.
 - 63. Dickey W, Hughes D. Disappointing sensitivity of endoscopic markers for villous atrophy in a high-risk population: implications for celiac disease diagnosis during routine endoscopy. *Am J Gastroenterol*. 2001;96(7):2126-2128. doi:10.1111/j.1572-0241.2001.03947.x.
 - 64. Ravelli A, Villanacci V, Monfredini C, et al. How patchy is patchy villous atrophy?: distribution pattern of histological lesions in the duodenum of children with celiac disease. *Am J Gastroenterol*. 2010;105(9):2103-2110. doi:10.1038/ajg.2010.153.
 - 65. Lebwohl B, Kapel RC, Neugut AI, et al. Adherence to biopsy guidelines increases celiac disease diagnosis. *Gastrointest Endosc*. 2011;74(1):103-109. doi:10.1016/j.gie.2011.03.1236.
 - 66. Kurien M, Evans KE, Hopper AD, et al. Duodenal bulb biopsies for diagnosing adult celiac disease: is there an optimal biopsy site? *Gastrointest Endosc*. 2012;75(6):1190-1196. doi:10.1016/j.gie.2012.02.025.
 - 67. Mooney PD, Kurien M, Evans KE, et al. Clinical and Immunologic Features of Ultra-Short Celiac Disease. *Gastroenterology*. 2016;150(5):1125-1134. doi:10.1053/j.gastro.2016.01.029.
 - 68. Doyev R, Cohen S, Ben-Tov A, et al. Ultra-short Celiac Disease Is a Distinct and Milder Phenotype of the Disease in Children. *Dig Dis Sci*. 2019;64(1):167-172. doi:10.1007/s10620-018-5323-x.
 - 69. Latorre M, Lagana SM, Freedberg DE, et al. Endoscopic biopsy technique in the diagnosis of celiac disease: one bite or two? *Gastrointest Endosc*. 2015;81(5):1228-1233. doi:10.1016/j.gie.2014.10.024.
 - 70. Marsh MN. Gluten, major histocompatibility complex, and the small intestine. A molecular and immunobiologic approach to the spectrum of gluten sensitivity ('celiac sprue'). *Gastroenterology*. 1992;102(1):330-354.

71. Rostami K, Kerckhaert J, Tiemessen R, et al. Sensitivity of antiendomysium and antigliadin antibodies in untreated celiac disease: disappointing in clinical practice. *Am J Gastroenterol.* 1999;94(4):888-894. doi:10.1111/j.1572-0241.1999.983_f.x.
72. Oberhuber G, Granditsch G, Vogelsang H. The histopathology of coeliac disease: time for a standardized report scheme for pathologists. *Eur J Gastroenterol Hepatol.* 1999;11(10):1185-1194.
73. Marsh MN, Johnson M, Rostami K. Mucosal histopathology in celiac disease: a rebuttal of Oberhuber's sub-division of Marsh III. *Gastroenterol Hepatol from bed to bench.* 2015;8(2):99-109.
74. Corazza GR, Villanacci V. Coeliac disease. *J Clin Pathol.* 2005;58(6):573-574. doi:10.1136/jcp.2004.023978.
75. Adelman DC, Murray J, Wu T-T, et al. Measuring Change In Small Intestinal Histology In Patients With Celiac Disease. *Am J Gastroenterol.* 2018;113(3):339-347. doi:10.1038/ajg.2017.480.
76. Villanacci V, Ceppa P, Tavani E, et al. Coeliac disease: the histology report. *Dig Liver Dis.* 2011;43 Suppl 4:S385-95. doi:10.1016/S1590-8658(11)60594-X.
77. Goldstein NS. Proximal small-bowel mucosal villous intraepithelial lymphocytes. *Histopathology.* 2004;44(3):199-205.
78. Bao F, Green PH, Bhagat G. An update on celiac disease histopathology and the road ahead. *Arch Pathol Lab Med.* 2012;136(7):735-745. doi:10.5858/arpa.2011-0572-RA.
79. Marsh MN, Heal CJ. Evolutionary Developments in Interpreting the Gluten-Induced Mucosal Celiac Lesion: An Archimedian Heuristic. *Nutrients.* 2017;9(3):213. doi:10.3390/nu9030213.
80. Nijeboer P, van Gils T, Reijm M, et al. Gamma-Delta T Lymphocytes in the Diagnostic Approach of Coeliac Disease. *J Clin Gastroenterol.* May 2018:1. doi:10.1097/MCG.0000000000001060.
81. Høydahl LS, Richter L, Frick R, et al. Plasma Cells are the Most Abundant Gluten Peptide MHC-expressing Cells in Inflamed Intestinal Tissues From Patients With Celiac Disease. *Gastroenterology.* December 2018. doi:10.1053/j.gastro.2018.12.013.
82. Lagana SM, Bhagat G. Biopsy Diagnosis of Celiac Disease: The Pathologist's Perspective in Light of Recent Advances. *Gastroenterol Clin North Am.* 2019;48(1):39-51. doi:10.1016/j.gtc.2018.09.003.
83. Aziz I, Evans KE, Hopper AD, et al. A prospective study into the aetiology of lymphocytic duodenitis. *Aliment Pharmacol Ther.* 2010;32(11-12):1392-1397. doi:10.1111/j.1365-2036.2010.04477.x.
84. Green PH, Rostami K, Marsh MN. Diagnosis of coeliac disease. *Best Pract Res Clin Gastroenterol.* 2005;19(3):389-400. doi:10.1016/j.bpg.2005.02.006.
85. Galli G, Purchiaroni F, Lahner E, et al. Time trend occurrence of duodenal intraepithelial lymphocytosis and celiac disease in an open access endoscopic population. *United European Gastroenterol J.* 2017 Oct;5(6):811-818. doi: 10.1177/2050640616680971
86. Abrams JA, Diamond B, Rotterdam H, Green PHR. Seronegative celiac disease: increased prevalence with lesser degrees of villous atrophy. *Dig Dis Sci.* 2004;49(4):546-550.
87. Donaldson MR, Book LS, Leiferman KM, et al. Strongly positive tissue transglutaminase antibodies are associated with Marsh 3 histopathology in adult and pediatric celiac disease. *J Clin Gastroenterol.* 2008;42(3):256-260. doi:10.1097/MCG.0b013e31802e70b1.

88. Wahab PJ, Meijer JWR, Mulder CJJ. Histologic follow-up of people with celiac disease on a gluten-free diet: slow and incomplete recovery. *Am J Clin Pathol.* 2002;118(3):459-463. doi:10.1309/EVXT-851X-WHLC-RLX9.
89. Lanzini A, Lanzarotto F, Villanacci V, et al. Complete recovery of intestinal mucosa occurs very rarely in adult coeliac patients despite adherence to gluten-free diet. *Aliment Pharmacol Ther.* 2009;29(12):1299-1308. doi:10.1111/j.1365-2036.2009.03992.x.
90. Rubio-Tapia A, Rahim MW, See JA, et al. Mucosal recovery and mortality in adults with celiac disease after treatment with a gluten-free diet. *Am J Gastroenterol.* 2010;105(6):1412-1420. doi:10.1038/ajg.2010.10.
91. Koskinen O, Collin P, Lindfors K, et al. Usefulness of Small-bowel Mucosal Transglutaminase-2 Specific Autoantibody Deposits in the Diagnosis and Follow-up of Celiac Disease. *J Clin Gastroenterol.* September 2009;1. doi:10.1097/MCG.0b013e3181b64557.
92. Carroccio A, Di Prima L, Pirrone G, et al. Anti-transglutaminase antibody assay of the culture medium of intestinal biopsy specimens can improve the accuracy of celiac disease diagnosis. *Clin Chem.* 2006;52(6):1175-1180. doi:10.1373/clinchem.2005.061366.
93. Valle J, Morgado JMT, Ruiz-Martín J, et al. Flow cytometry of duodenal intraepithelial lymphocytes improves diagnosis of celiac disease in difficult cases. *United Eur Gastroenterol J.* 2017;5(6):819-826. doi:10.1177/2050640616682181.
94. Sarna VK, Lundin KEA, Mørkrid L, et al. HLA-DQ-Gluten Tetramer Blood Test Accurately Identifies Patients With and Without Celiac Disease in Absence of Gluten Consumption. *Gastroenterology.* 2018;154(4):886-896.e6. doi:10.1053/j.gastro.2017.11.006.
95. Camarca A, Radano G, Di Mase R, et al. Short wheat challenge is a reproducible in-vivo assay to detect immune response to gluten. *Clin Exp Immunol.* 2012 Aug; 169(2):129-36.
96. Piscopia S, Mandile R, Auricchio R, et al. Gliadin-Specific T-Cells Mobilized in the Peripheral Blood of Coeliac Patients by Short Oral Gluten Challenge: Clinical Applications. *Nutrients.* 2015 Dec 2;7(12):10020-31. doi: 10.3390/nu7125515. Review
97. Brottveit M, Beitnes AC, Tollesen S, et al. Mucosal cytokine response after short-term gluten challenge in celiac disease and non-celiac gluten sensitivity. *Am J Gastroenterol.* 2013 May;108(5):842-50. doi: 10.1038/ajg.2013.91.
98. Cammarota G, Fedeli P, Gasbarrini A. Emerging technologies in upper gastrointestinal endoscopy and celiac disease. *Nat Clin Pract Gastroenterol Hepatol.* 2009;6(1):47-56. doi:10.1038/ncpgasthep1298.
99. Pallav K, Kabbani T, Tariq S, et al. Clinical utility of celiac disease-associated HLA testing. *Dig Dis Sci.* 2014;59(9):2199-2206. doi:10.1007/s10620-014-3143-1.
100. Hadithi M, von Blomberg BME, Crusius JBA, et al. Accuracy of serologic tests and HLA-DQ typing for diagnosing celiac disease. *Ann Intern Med.* 2007;147(5):294-302.
101. Johnston SD, Rodgers C, Watson RG. Quality of life in screen-detected and typical coeliac disease and the effect of excluding dietary gluten. *Eur J Gastroenterol Hepatol.* 2004;16(12):1281-1286.
102. Viljamaa M, Collin P, Huhtala H, et al. Is coeliac disease screening in risk groups justified? A fourteen-year follow-up with special focus on compliance and quality of life. *Aliment Pharmacol Ther.* 2005;22(4):317-324. doi:10.1111/j.1365-2036.2005.02574.x.
103. Chang MS, Rubin M, Lewis SK, Green PH. Diagnosing celiac disease by video capsule endoscopy (VCE) when esophagogastroduodenoscopy (EGD) and biopsy is unable to provide a diagnosis: a case series. *BMC Gastroenterol.* 2012;12(1):90. doi:10.1186/1471-230X-12-90.
104. Barret M, Malamut G, Rahmi G, et al. Diagnostic yield of capsule endoscopy in refractory

- celiac disease. *Am J Gastroenterol*. 2012;107(10):1546-1553. doi:10.1038/ajg.2012.199.
105. Hadithi M, Al-Toma A, Oudejans J, et al. The value of double-balloon enteroscopy in patients with refractory celiac disease. *Am J Gastroenterol*. 2007;102(5):987-996. doi:10.1111/j.1572-0241.2007.01122.x.
106. Heyman M, Abed J, Lebreton C, Cerf-Bensussan N. Intestinal permeability in coeliac disease: insight into mechanisms and relevance to pathogenesis. *Gut*. 2012;61(9):1355-1364. doi:10.1136/gutjnl-2011-300327.
107. Oldenburger IB, Wolters VM, Kardol-Hoefnagel T, et al. Serum intestinal fatty acid-binding protein in the noninvasive diagnosis of celiac disease. *APMIS*. 2018;126(3):186-190. doi:10.1111/apm.12800.
108. Vreugdenhil AC, Wolters VM, Adriaanse MP, et al. Additional value of serum I-FABP levels for evaluating celiac disease activity in children. *Scand J Gastroenterol*. 2011;46(12):1435-1441. doi:10.3109/00365521.2011.627447.
109. Van Weyenberg SJB, Mulder CJJ, Van Waesberghe JHTM. Small Bowel Imaging in Celiac Disease. *Dig Dis*. 2015;33(2):252-259. doi:10.1159/000369516.
110. Fraquelli M, Sciola V, Villa C, Conte D. The role of ultrasonography in patients with celiac disease. *World J Gastroenterol*. 2006;12(7):1001-1004.
111. Kelly CP, Bai JC, Liu E, Leffler DA. Advances in diagnosis and management of celiac disease. *Gastroenterology*. 2015;148(6):1175-1186. doi:10.1053/j.gastro.2015.01.044.
112. Volta U, Caio G, Boschetti E, et al. Seronegative celiac disease: Shedding light on an obscure clinical entity. *Dig Liver Dis*. 2016;48(9):1018-1022. doi:10.1016/j.dld.2016.05.024.
113. Wakim-Fleming J, Pagadala MR, Lemyre MS, et al. Diagnosis of celiac disease in adults based on serology test results, without small-bowel biopsy. *Clin Gastroenterol Hepatol*. 2013;11(5):511-516. doi:10.1016/j.cgh.2012.12.015.
114. Werkstetter KJ, Korponay-Szabó IR, Popp A, et al. Accuracy in Diagnosis of Celiac Disease Without Biopsies in Clinical Practice. *Gastroenterology*. 2017;153(4):924-935. doi:10.1053/j.gastro.2017.06.002.
115. Holmes GKT, Forsyth JM, Knowles S, et al. Coeliac disease: further evidence that biopsy is not always necessary for diagnosis. *Eur J Gastroenterol Hepatol*. 2017;29(6):640-645. doi:10.1097/MEG.0000000000000841.
116. Holmes G, Ciacci C. The serological diagnosis of coeliac disease - a step forward. *Gastroenterol Hepatol from bed to bench*. 2018;11(3):209-215.
117. Fuchs V, Kurppa K, Huhtala H, et al. Serology-based criteria for adult coeliac disease have excellent accuracy across the range of pre-test probabilities. *Aliment Pharmacol Ther*. 2019;49(3):277-284. doi:10.1111/apt.15109.
118. Di Sabatino A, Lenti MV, Giuffrida P, et al. New insights into immune mechanisms underlying autoimmune diseases of the gastrointestinal tract. *Autoimmun Rev*. 2015;14(12):1161-1169. doi:10.1016/j.autrev.2015.08.004.
119. Jensen ET, Eluri S, Lebwohl B, et al. Increased Risk of Esophageal Eosinophilia and Eosinophilic Esophagitis in Patients With Active Celiac Disease on Biopsy. *Clin Gastroenterol Hepatol*. 2015;13(8):1426-1431. doi:10.1016/j.cgh.2015.02.018.
120. Tack GJ, Verbeek WHM, Schreurs MWJ, Mulder CJJ. The spectrum of celiac disease: epidemiology, clinical aspects and treatment. *Nat Rev Gastroenterol Hepatol*. 2010;7(4):204-213. doi:10.1038/nrgastro.2010.23.
121. Al-Toma A, Verbeek WHM, Mulder CJJ. The management of complicated celiac disease. *Dig*

- Dis.* 2007;25(3):230-236. doi:10.1159/000103891.
122. Cellier C, Delabesse E, Helmer C, et al. Refractory sprue, coeliac disease, and enteropathy-associated T-cell lymphoma. French Coeliac Disease Study Group. *Lancet (London, England)*. 2000;356(9225):203-208.
123. Sanford ML, Nagel AK. A Review of Current Evidence of Olmesartan Medoxomil Mimicking Symptoms of Celiac Disease. *J Pharm Pract.* 2015;28(2):189-192. doi:10.1177/0897190014527320.
124. Norström F, Sandström O, Lindholm L, Ivarsson A. A gluten-free diet effectively reduces symptoms and health care consumption in a Swedish celiac disease population. *BMC Gastroenterol.* 2012;12(1):125. doi:10.1186/1471-230X-12-125.
125. Aziz I, Peerally MF, Barnes J-H, et al. The clinical and phenotypical assessment of seronegative villous atrophy; a prospective UK centre experience evaluating 200 adult cases over a 15-year period (2000-2015). *Gut.* 2017;66(9):1563-1572. doi:10.1136/gutjnl-2016-312271.
126. Schiepatti A, Sanders DS, Biagi F. Seronegative coeliac disease. *Curr Opin Gastroenterol.* 2018;34(3):154-158. doi:10.1097/MOG.0000000000000436.
127. DeGaetani M, Tennyson CA, Lebwohl B, et al. Villous atrophy and negative celiac serology: a diagnostic and therapeutic dilemma. *Am J Gastroenterol.* 2013;108(5):647-653. doi:10.1038/ajg.2013.45.
128. Salmi TT, Collin P, Korponay-Szabó IR, et al. Endomysial antibody-negative coeliac disease: clinical characteristics and intestinal autoantibody deposits. *Gut.* 2006;55(12):1746-1753. doi:10.1136/gut.2005.071514.
129. Collin P, Kaukinen K, Vogelsang H, et al. Antiendomysial and antihuman recombinant tissue transglutaminase antibodies in the diagnosis of coeliac disease: a biopsy-proven European multicentre study. *Eur J Gastroenterol Hepatol.* 2005;17(1):85-91.
130. Lähdeaho M-L, Mäki M, Laurila K, et al. Small- bowel mucosal changes and antibody responses after low- and moderate-dose gluten challenge in celiac disease. *BMC Gastroenterol.* 2011;11(1):129. doi:10.1186/1471-230X-11-129.
131. Wahab PJ, Crusius JB, Meijer JW, Mulder CJ. Gluten challenge in borderline gluten-sensitive enteropathy. *Am J Gastroenterol.* 2001;96(5):1464-1469. doi:10.1111/j.1572-0241.2001.03812.x.
132. Sarna VK, Skodje GI, Reims HM, et al. HLA-DQ:gluten tetramer test in blood gives better detection of coeliac patients than biopsy after 14-day gluten challenge. *Gut.* 2018;67(9):1606-1613. doi:10.1136/gutjnl-2017-314461.
133. Murray JA, Watson T, Clearman B, Mitros F. Effect of a gluten-free diet on gastrointestinal symptoms in celiac disease. *Am J Clin Nutr.* 2004;79(4):669-673. doi:10.1093/ajcn/79.4.669.
134. Pinto-Sánchez MI, Causada-Caló N, Bercik P, et al. Safety of Adding Oats to a Gluten-Free Diet for Patients With Celiac Disease: Systematic Review and Meta-analysis of Clinical and Observational Studies. *Gastroenterology.* 2017;153(2):395-409.e3. doi:10.1053/j.gastro.2017.04.009.
135. Tapsas D, Fälth-Magnusson K, Höglberg L, et al. Swedish children with celiac disease comply well with a gluten-free diet, and most include oats without reporting any adverse effects: a long-term follow-up study. *Nutr Res.* 2014;34(5):436-441. doi:10.1016/j.nutres.2014.04.006.
136. Commission Regulation (EC) No 41/2009 of 20 January 2009 concerning the composition and labelling of foodstuffs suitable for people intolerant to gluten (Text with EEA relevance).

- OJL*. 2009;16:3-5. <http://data.europa.eu/eli/reg/2009/41/oj>.
137. Wild D, Robins GG, Burley VJ, Howdle PD. Evidence of high sugar intake, and low fibre and mineral intake, in the gluten-free diet. *Aliment Pharmacol Ther*. 2010;32(4):573-581. doi:10.1111/j.1365-2036.2010.04386.x.
 138. Hischenhuber C, Crevel R, Jarry B, et al. Review article: safe amounts of gluten for patients with wheat allergy or coeliac disease. *Aliment Pharmacol Ther*. 2006;23(5):559-575. doi:10.1111/j.1365-2036.2006.02768.x.
 139. Akobeng AK, Thomas AG. Systematic review: tolerable amount of gluten for people with coeliac disease. *Aliment Pharmacol Ther*. 2008;27(11):1044-1052. doi:10.1111/j.1365-2036.2008.03669.x.
 140. Shah A V, Serajuddin ATM, Mangione RA. Making All Medications Gluten Free. *J Pharm Sci*. 2018;107(5):1263-1268. doi:10.1016/j.xphs.2017.12.021.
 141. Madden AM, Riordan AM, Knowles L. Outcomes in coeliac disease: a qualitative exploration of patients' views on what they want to achieve when seeing a dietitian. *J Hum Nutr Diet*. 2016;29(5):607-616. doi:10.1111/jhn.12378.
 142. Khashan AS, Henriksen TB, Mortensen PB, et al. The impact of maternal celiac disease on birthweight and preterm birth: a Danish population-based cohort study. *Hum Reprod*. 2010;25(2):528-534. doi:10.1093/humrep/dep409.
 143. West J, Logan RFA, Smith CJ, et al. Malignancy and mortality in people with coeliac disease: population based cohort study. *BMJ*. 2004;329(7468):716-719. doi:10.1136/bmj.38169.486701.7C.
 144. Lebwohl B, Granath F, Ekbom A, et al. Mucosal healing and mortality in coeliac disease. *Aliment Pharmacol Ther*. 2013;37(3):332-339. doi:10.1111/apt.12164.
 145. Olén O, Askling J, Ludvigsson JF, et al. Coeliac disease characteristics, compliance to a gluten free diet and risk of lymphoma by subtype. *Dig Liver Dis*. 2011;43(11):862-868. doi:10.1016/j.dld.2011.07.012.
 146. Ukkola A, Mäki M, Kurppa K, et al. Changes in body mass index on a gluten-free diet in coeliac disease: a nationwide study. *Eur J Intern Med*. 2012;23(4):384-388. doi:10.1016/j.ejim.2011.12.012.
 147. Mora S, Barera G, Beccio S, et al. A prospective, longitudinal study of the long-term effect of treatment on bone density in children with celiac disease. *J Pediatr*. 2001;139(4):516-521. doi:10.1067/mpd.2001.116298.
 148. Choi JM, Lebwohl B, Wang J, et al. Increased prevalence of celiac disease in patients with unexplained infertility in the United States. *J Reprod Med*. 56(5-6):199-203.
 149. Theethira TG, Dennis M, Leffler DA. Nutritional consequences of celiac disease and the gluten-free diet. *Expert Rev Gastroenterol Hepatol*. 2014;8(2):123-129. doi:10.1586/17474124.2014.876360.
 150. Bermejo F, García-López S. A guide to diagnosis of iron deficiency and iron deficiency anemia in digestive diseases. *World J Gastroenterol*. 2009;15(37):4638-4643.
 151. Hallert C, Svensson M, Tholstrup J, Hultberg B. Clinical trial: B vitamins improve health in patients with coeliac disease living on a gluten-free diet. *Aliment Pharmacol Ther*. 2009;29(8):811-816. doi:10.1111/j.1365-2036.2009.03945.x.
 152. Stabler SP. Vitamin B₁₂ Deficiency. *N Engl J Med*. 2013;368(2):149-160. doi:10.1056/NEJMcp1113996.
 153. García-Manzanares Á, Tenias JM, Lucendo AJ. Bone mineral density directly correlates with

- duodenal Marsh stage in newly diagnosed adult celiac patients. *Scand J Gastroenterol*. 2012;47(8-9):927-936. doi:10.3109/00365521.2012.688217.
154. Kavak US, Yüce A, Koçak N, et al. Bone mineral density in children with untreated and treated celiac disease. *J Pediatr Gastroenterol Nutr*. 2003;37(4):434-436.
155. Singhal N, Alam S, Sherwani R, Musarrat J. Serum zinc levels in celiac disease. *Indian Pediatr*. 2008;45(4):319-321.
156. Goodman BP, Mistry DH, Pasha SF, Bosch PE. Copper Deficiency Myeloneuropathy Due to Occult Celiac Disease. *Neurologist*. 2009;15(6):355-356. doi:10.1097/NRL.0b013e31819428a8.
157. Valente FX, Campos T do N, Moraes LF de S, et al. B vitamins related to homocysteine metabolism in adults celiac disease patients: a cross-sectional study. *Nutr J*. 2015;14(1):110. doi:10.1186/s12937-015-0099-8.
158. Zuccotti G, Fabiano V, Dilillo D, et al. Intakes of nutrients in Italian children with celiac disease and the role of commercially available gluten-free products. *J Hum Nutr Diet*. 2013;26(5):436-444. doi:10.1111/jhn.12026.
159. Penagini F, Dilillo D, Meneghin F, et al. Gluten-Free Diet in Children: An Approach to a Nutritionally Adequate and Balanced Diet. *Nutrients*. 2013;5(11):4553-4565. doi:10.3390/nu5114553.
160. Matos Segura ME, Rosell CM. Chemical Composition and Starch Digestibility of Different Gluten-free Breads. *Plant Foods Hum Nutr*. 2011;66(3):224-230. doi:10.1007/s11130-011-0244-2.
161. Tortora R, Capone P, De Stefano G, et al. Metabolic syndrome in patients with coeliac disease on a gluten-free diet. *Aliment Pharmacol Ther*. 2015;41(4):352-359. doi:10.1111/apt.13062.
162. Ciccone A, Gabrieli D, Cardinale R, et al. Metabolic Alterations in Celiac Disease Occurring after Following a Gluten-Free Diet. *Digestion*. December 2018;1-7. doi:10.1159/000495749.
163. García-Manzanares A, Lucendo AJ, González-Castillo S, Moreno-Fernández J. Resolution of metabolic syndrome after following a gluten free diet in an adult woman diagnosed with celiac disease. *World J Gastrointest Pathophysiol*. 2011;2(3):49-52. doi:10.4291/wjgp.v2.i3.49.
164. Jamma S, Rubio-Tapia A, Kelly CP, et al. Celiac crisis is a rare but serious complication of celiac disease in adults. *Clin Gastroenterol Hepatol*. 2010;8(7):587-590. doi:10.1016/j.cgh.2010.04.009.
165. de Almeida Menezes M, Cabral V, Silva Lorena SL. Celiac crisis in adults: a case report and review of the literature focusing in the prevention of refeeding syndrome. *Rev Esp Enferm Dig*. 2017;109(1):67-68. doi:10.17235/reed.2016.4073/2015.
166. Hughey JJ, Ray BK, Lee AR, et al. Self-reported dietary adherence, disease-specific symptoms, and quality of life are associated with healthcare provider follow-up in celiac disease. *BMC Gastroenterol*. 2017;17(1):156. doi:10.1186/s12876-017-0713-7.
167. Biagi F, Bianchi PI, Marchese A, et al. A score that verifies adherence to a gluten-free diet: a cross-sectional, multicentre validation in real clinical life. *Br J Nutr*. 2012;108(10):1884-1888. doi:10.1017/S0007114511007367.
168. Wierdsma NJ, Nijeboer P, vd Schueren MA, et al. Refractory celiac disease and EATL patients show severe malnutrition and malabsorption at diagnosis. *Clin Nutr*. 2016;35(3):685-691. doi:10.1016/j.clnu.2015.04.014.

169. Nachman F, Sugai E, Vázquez H, et al. Serological tests for celiac disease as indicators of long-term compliance with the gluten-free diet. *Eur J Gastroenterol Hepatol.* 2011;23(6):473-480. doi:10.1097/MEG.0b013e328346e0f1.
170. George DA, Hui LL, Rattehalli D, et al. The role of near-patient coeliac serology testing in the follow-up of patients with coeliac disease. *Frontline Gastroenterol.* 2014;5(1):20-25. doi:10.1136/flgastro-2013-100342.
171. Cebolla Á, Moreno M de L, Coto L, Sousa C. Gluten Immunogenic Peptides as Standard for the Evaluation of Potential Harmful Prolamin Content in Food and Human Specimen. *Nutrients.* 2018;10(12):1927. doi:10.3390/nu10121927.
172. Moreno M de L, Cebolla Á, Muñoz-Suano A, et al. Detection of gluten immunogenic peptides in the urine of patients with coeliac disease reveals transgressions in the gluten-free diet and incomplete mucosal healing. *Gut.* 2017;66(2):250-257. doi:10.1136/gutjnl-2015-310148.
173. Comino I, Fernández-Bañares F, Esteve M, et al. Fecal Gluten Peptides Reveal Limitations of Serological Tests and Food Questionnaires for Monitoring Gluten-Free Diet in Celiac Disease Patients. *Am J Gastroenterol.* 2016;111(10):1456-1465. doi:10.1038/ajg.2016.439.
174. Gerasimidis K, Zafeiropoulou K, Mackinder M, et al. Comparison of Clinical Methods With the Faecal Gluten Immunogenic Peptide to Assess Gluten Intake in Coeliac Disease. *J Pediatr Gastroenterol Nutr.* 2018;67(3):356-360. doi:10.1097/MPG.0000000000002062.
175. Kaukinen K, Peraaho M, Lindfors K, et al. Persistent small bowel mucosal villous atrophy without symptoms in coeliac disease. *Aliment Pharmacol Ther.* 2007;25(10):1237-1245. doi:10.1111/j.1365-2036.2007.03311.x.
176. Dickey W, Hughes DF, McMillan SA. Disappearance of endomysial antibodies in treated celiac disease does not indicate histological recovery. *Am J Gastroenterol.* 2000;95(3):712-714. doi:10.1111/j.1572-0241.2000.01838.x.
177. Sharkey LM, Corbett G, Currie E, et al. Optimising delivery of care in coeliac disease - comparison of the benefits of repeat biopsy and serological follow-up. *Aliment Pharmacol Ther.* 2013;38(10):1278-1291. doi:10.1111/apt.12510.
178. Hutchinson JM, West NP, Robins GG, Howdle PD. Long-term histological follow-up of people with coeliac disease in a UK teaching hospital. *QJM.* 2010;103(7):511-517. doi:10.1093/qjmed/hcq076.
179. Pekki H, Kurppa K, Mäki M, et al. Performing routine follow-up biopsy 1 year after diagnosis does not affect long-term outcomes in coeliac disease. *Aliment Pharmacol Ther.* 2017;45(11):1459-1468. doi:10.1111/apt.14048.
180. Primary Care Society for Gastroenterology UK. The Management of Adults with Coeliac Disease in Primary Care. 2006.
181. Kurppa K, Lauronen O, Collin P, et al. Factors associated with dietary adherence in celiac disease: a nationwide study. *Digestion.* 2012;86(4):309-314. doi:10.1159/000341416.
182. Di Sabatino A, Rosado MM, Cazzola P, et al. Splenic hypofunction and the spectrum of autoimmune and malignant complications in celiac disease. *Clin Gastroenterol Hepatol.* 2006;4(2):179-186.
183. Mårlild K, Fredlund H, Ludvigsson JF. Increased risk of hospital admission for influenza in patients with celiac disease: a nationwide cohort study in Sweden. *Am J Gastroenterol.* 2010;105(11):2465-2473. doi:10.1038/ajg.2010.352.
184. van Gils T, Nijeboer P, van Waesberghe JHT, et al. Splenic volume differentiates complicated

- and non-complicated celiac disease. *United Eur Gastroenterol J.* 2017;5(3):374-379. doi:10.1177/2050640616663571.
185. Fouda MA, Khan AA, Sultan M, et al. Evaluation and management of skeletal health in celiac disease: Position statement. *Can J Gastroenterol.* 2012;26(11):819-829.
186. Assiri A, Saeed A, AlSarkhy A, et al. Celiac disease presenting as rickets in Saudi children. *Ann Saudi Med.* 2013 Jan-Feb;33(1):49-51. doi: 10.5144/0256-4947.2013.49.
187. Passananti V, Santonicola A, Bucci C, et al. Bone mass in women with celiac disease: role of exercise and gluten-free diet. *Dig Liver Dis.* 2012;44(5):379-383. doi:10.1016/j.dld.2011.12.012.
188. Capriles VD, Martini LA, Arêas JAG. Metabolic osteopathy in celiac disease: importance of a gluten-free diet. *Nutr Rev.* 2009;67(10):599-606. doi:10.1111/j.1753-4887.2009.00232.x.
189. Blazina S, Bratanic N, Campa AS, et al. Bone mineral density and importance of strict gluten-free diet in children and adolescents with celiac disease. *Bone.* 2010;47(3):598-603. doi:10.1016/j.bone.2010.06.008.
190. Posthumus L, Al-Toma A. Duodenal histopathology and laboratory deficiencies related to bone metabolism in coeliac disease. *Eur J Gastroenterol Hepatol.* 2017;29(8):897-903. doi:10.1097/MEG.0000000000000880.
191. Krupa-Kozak U. Pathologic bone alterations in celiac disease: etiology, epidemiology, and treatment. *Nutrition.* 2014;30(1):16-24. doi:10.1016/j.nut.2013.05.027.
192. Leffler DA, Dennis M, Hyett B, et al. Etiologies and predictors of diagnosis in nonresponsive celiac disease. *Clin Gastroenterol Hepatol.* 2007;5(4):445-450. doi:10.1016/j.cgh.2006.12.006.
193. Al-Toma A, Verbeek WHM, Mulder CJJ. Update on the management of refractory coeliac disease. *J Gastrointestin Liver Dis.* 2007;16(1):57-63.
194. Rubio-Tapia A, Murray JA. Classification and management of refractory coeliac disease. *Gut.* 2010;59(4):547-557. doi:10.1136/gut.2009.195131.
195. Stewart M, Andrews CN, Urbanski S, et al. The association of coeliac disease and microscopic colitis: a large population-based study. *Aliment Pharmacol Ther.* 2011;33(12):1340-1349. doi:10.1111/j.1365-2036.2011.04666.x.
196. Ianiro G, Bibbò S, Montalto M, et al. Systematic review: Sprue-like enteropathy associated with olmesartan. *Aliment Pharmacol Ther.* 2014;40(1):16-23. doi:10.1111/apt.12780.
197. Daum S, Cellier C, Mulder CJJ. Refractory coeliac disease. *Best Pract Res Clin Gastroenterol.* 2005;19(3):413-424. doi:10.1016/j.bpg.2005.02.001.
198. Al-Toma A, Verbeek WHM, Hadithi M, et al. Survival in refractory coeliac disease and enteropathy-associated T-cell lymphoma: retrospective evaluation of single-centre experience. *Gut.* 2007;56(10):1373-1378. doi:10.1136/gut.2006.114512.
199. van Wanrooij RLJ, Schreurs MWJ, Bouma G, et al. Accurate classification of RCD requires flow cytometry. *Gut.* 2010;59(12):1732. doi:10.1136/gut.2010.223438.
200. van Wanrooij RLJ, Bouma G, Bontkes HJ, et al. Outcome of Referrals for Non-Responsive Celiac Disease in a Tertiary Center: Low Incidence of Refractory Celiac Disease in the Netherlands. *Clin Transl Gastroenterol.* 2017;8(1):e218. doi:10.1038/ctg.2016.70.
201. Malamut G, Meresse B, Cellier C, Cerf-Bensussan N. Refractory celiac disease: from bench to bedside. *Semin Immunopathol.* 2012;34(4):601-613. doi:10.1007/s00281-012-0322-z.
202. Tack GJ, van Wanrooij RLJ, Langerak AW, et al. Origin and immunophenotype of aberrant IEL in RCDII patients. *Mol Immunol.* 2012;50(4):262-270. doi:10.1016/j.molimm.2012.01.014.

203. Verbeek WHM, Goerres MS, von Blomberg BME, et al. Flow cytometric determination of aberrant intra-epithelial lymphocytes predicts T-cell lymphoma development more accurately than T-cell clonality analysis in Refractory Celiac Disease. *Clin Immunol.* 2008;126(1):48-56. doi:10.1016/j.clim.2007.09.002.
204. Cheminant M, Bruneau J, Malamut G, et al. NKp46 is a diagnostic biomarker and may be a therapeutic target in gastrointestinal T-cell lymphoproliferative diseases: a CELAC study. *Gut.* November 2018:gutjnl-2018-317371. doi:10.1136/gutjnl-2018-317371.
205. Daum S, Wahnschaffe U, Glasenapp R, et al. Capsule endoscopy in refractory celiac disease. *Endoscopy.* 2007;39(5):455-458. doi:10.1055/s-2007-966239.
206. Mallant M, Hadithi M, Al-Toma A-B, et al. Abdominal computed tomography in refractory coeliac disease and enteropathy associated T-cell lymphoma. *World J Gastroenterol.* 2007;13(11):1696-1700.
207. Hadithi M, Mallant M, Oudejans J, et al. 18F-FDG PET versus CT for the detection of enteropathy-associated T-cell lymphoma in refractory celiac disease. *J Nucl Med.* 2006;47(10):1622-1627.
208. Chan TSY, Lee E, Khong P-L, et al. Positron emission tomography computed tomography features of monomorphic epitheliotropic intestinal T-cell lymphoma. *Hematology.* 2018;23(1):10-16. doi:10.1080/10245332.2017.1335979.
209. Trynka G, Hunt KA, Bockett NA, et al. Dense genotyping identifies and localizes multiple common and rare variant association signals in celiac disease. *Nat Genet.* 2011;43(12):1193-1201. doi:10.1038/ng.998.
210. Hrdlickova B, Mulder CJ, Malamut G, et al. A locus at 7p14.3 predisposes to refractory celiac disease progression from celiac disease. *Eur J Gastroenterol Hepatol.* 2018;30(8):828-837. doi:10.1097/MEG.0000000000001168.
211. Colpitts SL, Stoklasek TA, Plumlee CR, et al. Cutting edge: the role of IFN- α receptor and MyD88 signaling in induction of IL-15 expression in vivo. *J Immunol.* 2012;188(6):2483-2487. doi:10.4049/jimmunol.1103609.
212. Schmitz F, Tjon JML, Lai Y, et al. Identification of a potential physiological precursor of aberrant cells in refractory coeliac disease type II. *Gut.* 2013;62(4):509-519. doi:10.1136/gutjnl-2012-302265.
213. Kooy-Winkelhaar YMC, Bouwer D, Janssen GMC, et al. CD4 T-cell cytokines synergize to induce proliferation of malignant and nonmalignant innate intraepithelial lymphocytes. *Proc Natl Acad Sci U S A.* 2017;114(6):E980-E989. doi:10.1073/pnas.1620036114.
214. van Wanrooij RLJ, de Jong D, Langerak AW, et al. Novel variant of EATL evolving from mucosal $\gamma\delta$ -T-cells in a patient with type I RCD. *BMJ open Gastroenterol.* 2015;2(1):e000026. doi:10.1136/bmjgast-2014-000026.
215. Jamma S, Leffler DA, Dennis M, et al. Small intestinal release mesalamine for the treatment of refractory celiac disease type I. *J Clin Gastroenterol.* 2011;45(1):30-33. doi:10.1097/MCG.0b013e3181f42401.
216. Brar P, Lee S, Lewis S, Egbuna I, et al. Budesonide in the treatment of refractory celiac disease. *Am J Gastroenterol.* 2007;102(10):2265-2269. doi:10.1111/j.1572-0241.2007.01380.x.
217. Mukewar SS, Sharma A, Rubio-Tapia A, et al. Open-Capsule Budesonide for Refractory Celiac Disease. *Am J Gastroenterol.* 2017;112(6):959-967. doi:10.1038/ajg.2017.71.
218. Goerres MS, Meijer JWR, Wahab PJ, et al. Azathioprine and prednisone combination

- therapy in refractory coeliac disease. *Aliment Pharmacol Ther.* 2003;18(5):487-494.
219. Costantino G, della Torre A, Lo Presti MA, et al. Treatment of life-threatening type I refractory coeliac disease with long-term infliximab. *Dig Liver Dis.* 2008;40(1):74-77. doi:10.1016/j.dld.2006.10.017.
220. Tack GJ, van Asseldonk DP, van Wanrooij RLJ, et al. Tioguanine in the treatment of refractory coeliac disease--a single centre experience. *Aliment Pharmacol Ther.* 2012;36(3):274-281. doi:10.1111/j.1365-2036.2012.05154.x.
221. Simsek M, Meijer B, Ramsoekh D, et al. Clinical Course of Nodular Regenerative Hyperplasia in Thiopurine Treated Inflammatory Bowel Disease Patients. *Clin Gastroenterol Hepatol.* 2019;17(3):568-570. doi:10.1016/j.cgh.2018.05.009.
222. Al-Toma A, Goerres MS, Meijer JWR, et al. Cladribine therapy in refractory celiac disease with aberrant T cells. *Clin Gastroenterol Hepatol.* 2006;4(11):1322-7; quiz 1300. doi:10.1016/j.cgh.2006.07.007.
223. Tack GJ, Verbeek WHM, Al-Toma A, et al. Evaluation of Cladribine treatment in refractory celiac disease type II. *World J Gastroenterol.* 2011;17(4):506-513. doi:10.3748/wjg.v17.i4.506.
224. Al-Toma A, Visser OJ, van Roessel HM, et al. Autologous hematopoietic stem cell transplantation in refractory celiac disease with aberrant T cells. *Blood.* 2007;109(5):2243-2249. doi:10.1182/blood-2006-08-042820.
225. Tack GJ, Wondergem MJ, Al-Toma A, et al. Auto-SCT in refractory celiac disease type II patients unresponsive to cladribine therapy. *Bone Marrow Transplant.* 2011;46(6):840-846. doi:10.1038/bmt.2010.199.
226. van der Heijde D, Strand V, Tanaka Y, et al. Tofacitinib in Combination with Methotrexate in Patients with Rheumatoid Arthritis: Clinical Efficacy, Radiographic and Safety Outcomes from the 24-Month Phase 3 ORAL Scan Study. *Arthritis Rheumatol.* January 2019. doi:10.1002/art.40803.
227. Cellier C, Bouma G, van Gils T, et al. AMG 714 (ANTI-IL-15 MAB) halts the progression of aberrant intraepithelial lymphocytes in refractory celiac disease type ii (RCD-II): A phase 2a, randomized, double-blind, placebo-controlled study evaluating AMG 714 in adult patients with RCD-II/PRE-EATL. *Gastroenterology.* 2108;154(6):S-129-130.
228. Nijeboer P, van Wanrooij R, van Gils T, et al. Lymphoma development and survival in refractory coeliac disease type II: Histological response as prognostic factor. *United Eur Gastroenterol J.* 2017;5(2):208-217. doi:10.1177/2050640616646529.
229. Di Sabatino A, Biagi F, Gobbi PG, Corazza GR. How I treat enteropathy-associated T-cell lymphoma. *Blood.* 2012;119(11):2458-2468. doi:10.1182/blood-2011-10-385559.
230. Chan JKC, Chan ACL, Cheuk W, et al. Type II enteropathy-associated T-cell lymphoma: a distinct aggressive lymphoma with frequent $\gamma\delta$ T-cell receptor expression. *Am J Surg Pathol.* 2011;35(10):1557-1569. doi:10.1097/PAS.0b013e318222dfcd.
231. Al-Toma A, Verbeek WHM, Visser OJ, et al. Disappointing outcome of autologous stem cell transplantation for enteropathy-associated T-cell lymphoma. *Dig Liver Dis.* 2007;39(7):634-641. doi:10.1016/j.dld.2007.03.009.
232. Sieniawski M, Angamuthu N, Boyd K, et al. Evaluation of enteropathy-associated T-cell lymphoma comparing standard therapies with a novel regimen including autologous stem cell transplantation. *Blood.* 2010;115(18):3664-3670. doi:10.1182/blood-2009-07-231324.
233. Raderer M, Troch M, Kiesewetter B, et al. Second line chemotherapy in patients with

- enteropathy-associated T cell lymphoma: a retrospective single center analysis. *Ann Hematol.* 2012;91(1):57-61. doi:10.1007/s00277-011-1236-x.
234. Khalaf WF, Caldwell ME, Reddy N. Brentuximab in the treatment of CD30-positive enteropathy-associated T-cell lymphoma. *J Natl Compr Canc Netw.* 2013;11(2):137-40; quiz 140.
235. van de Water JM, Cillessen SA, Visser OJ, et al. Enteropathy associated T-cell lymphoma and its precursor lesions. *Best Pract Res Clin Gastroenterol.* 2010;24(1):43-56. doi:10.1016/j.bpg.2009.11.002.
236. Viljamaa M, Kaukinen K, Pukkala E, et al. Malignancies and mortality in patients with coeliac disease and dermatitis herpetiformis: 30-year population-based study. *Dig Liver Dis.* 2006;38(6):374-380. doi:10.1016/j.dld.2006.03.002.
237. Elfström P, Granath F, Ye W, Ludvigsson JF. Low risk of gastrointestinal cancer among patients with celiac disease, inflammation, or latent celiac disease. *Clin Gastroenterol Hepatol.* 2012;10(1):30-36. doi:10.1016/j.cgh.2011.06.029.
238. Lewis HM, Renaula TL, Garioch JJ, et al. Protective effect of gluten-free diet against development of lymphoma in dermatitis herpetiformis. *Br J Dermatol.* 1996;135(3):363-367.
239. van Gils T, Nijeboer P, Overbeek LI, et al. Risks for lymphoma and gastrointestinal carcinoma in patients with newly diagnosed adult-onset celiac disease: Consequences for follow-up: Celiac disease, lymphoma and GI carcinoma. *United Eur Gastroenterol J.* 2018;6(10):1485-1495. doi:10.1177/2050640618800540.
240. Husby S, Koletzko S, Korponay-Szabó IR, et al. European Society for Pediatric Gastroenterology, Hepatology, and Nutrition guidelines for the diagnosis of coeliac disease. *J Pediatr Gastroenterol Nutr.* 2012;54(1):136-160. doi:10.1097/MPG.0b013e31821a23d0.
241. Adriaanse MPM, Vreugdenhil ACE, Vastmans V, et al. Human leukocyte antigen typing using buccal swabs as accurate and non-invasive substitute for venipuncture in children at risk for celiac disease. *J Gastroenterol Hepatol.* 2016;31(10):1711-1716. doi:10.1111/jgh.13331.
242. Barnea L, Mozer-Glassberg Y, Hojsak I, et al. Pediatric celiac disease patients who are lost to follow-up have a poorly controlled disease. *Digestion.* 2014;90(4):248-253. doi:10.1159/000368395.
243. Crowley R, Wolfe I, Lock K, McKee M. Improving the transition between paediatric and adult healthcare: a systematic review. *Arch Dis Child.* 2011;96(6):548-553. doi:10.1136/adc.2010.202473.
244. Ludvigsson JF, Agreus L, Ciacci C, et al. Transition from childhood to adulthood in coeliac disease: the Prague consensus report. *Gut.* 2016;65(8):1242-1251. doi:10.1136/gutjnl-2016-311574.
245. Italian Society of Paediatric Gastroenterology, Hepatology and Nutrition (SIGENP), Italian Association of Hospital Gastroenterologists and Endoscopists (AIGO), Italian Society of Endoscopy (SIED), Italian Society of Gastroenterology (SIGE) L, Elli L, Maier R, et al. Transition of gastroenterological patients from paediatric to adult care: A position statement by the Italian Societies of Gastroenterology. *Dig Liver Dis.* 2015;47(9):734-740. doi:10.1016/j.dld.2015.04.002.
246. White PH, Cooley WC; Transitions Clinical Report Authoring Group; American Academy of Pediatrics; American Academy of Family Physicians; American College of Physicians. Supporting the Health Care Transition From Adolescence to Adulthood in the Medical Home. *Pediatrics.* 2018;142(5):e20182587. *Pediatrics.* 2019;143(2):e20183610.

- doi:10.1542/peds.2018-3610.
247. Troncone R, Kosova R. Short stature and catch-up growth in celiac disease. *J Pediatr Gastroenterol Nutr.* 2010;51 Suppl 3(Suppl 3):S137-8. doi:10.1097/MPG.0b013e3181f1dd66.
248. Sonti R, Lebwohl B, Lewis SK, et al. Men with celiac disease are shorter than their peers in the general population. *Eur J Gastroenterol Hepatol.* 2013;25(9):1033-1037. doi:10.1097/MEG.0b013e328362e461.
249. Nagra A, McGinnity PM, Davis N, Salmon AP. Implementing transition: Ready Steady Go. *Arch Dis Child Educ Pract Ed.* 2015;100(6):313-320. doi:10.1136/archdischild-2014-307423.
250. De Giorgio R, Volta U, Gibson PR. Sensitivity to wheat, gluten and FODMAPs in IBS: facts or fiction? *Gut.* 2016;65(1):169-178. doi:10.1136/gutjnl-2015-309757.
251. Skodje GI, Sarna VK, Minelle IH, et al. Fructan, Rather Than Gluten, Induces Symptoms in Patients With Self-Reported Non-Celiac Gluten Sensitivity. *Gastroenterology.* 2018;154(3):529-539.e2. doi:10.1053/j.gastro.2017.10.040.
252. Schuppan D, Pickert G, Ashfaq-Khan M, Zevallos V. Non-celiac wheat sensitivity: Differential diagnosis, triggers and implications. *Best Pract Res Clin Gastroenterol.* 2015;29(3):469-476. doi:10.1016/j.bpg.2015.04.002.
253. Volta U, Caio G, De Giorgio R. Is Autoimmunity More Predominant in Nonceliac Wheat Sensitivity Than Celiac Disease? *Gastroenterology.* 2016;150(1):282. doi:10.1053/j.gastro.2015.08.058.
254. Uhde M, Ajamian M, Caio G, et al. Intestinal cell damage and systemic immune activation in individuals reporting sensitivity to wheat in the absence of coeliac disease. *Gut.* 2016;65(12):1930-1937. doi:10.1136/gutjnl-2016-311964.
255. Catassi C, Elli L, Bonaz B, et al. Diagnosis of Non-Celiac Gluten Sensitivity (NCGS): The Salerno Experts' Criteria. *Nutrients.* 2015;7(6):4966-4977. doi:10.3390/nu7064966.
256. Rej A, Avery A, Ford AC, et al. Clinical application of dietary therapies in irritable bowel syndrome. *J Gastrointestin Liver Dis.* 2018;27(3):307-316. doi:10.15403/jgld.2014.1121.273.avy.
257. Aziz I, Hadjivassiliou M, Sanders DS. The spectrum of noncoeliac gluten sensitivity. *Nat Rev Gastroenterol Hepatol.* 2015;12(9):516-526. doi:10.1038/nrgastro.2015.107.
258. Salmi TT, Hervonen K, Laurila K, et al. Small bowel transglutaminase 2-specific IgA deposits in dermatitis herpetiformis. *Acta Derm Venereol.* 2014;94(4):393-397. doi:10.2340/00015555-1764.
259. Sárdy M, Kárpáti S, Merkl B, et al. Epidermal transglutaminase (TGase 3) is the autoantigen of dermatitis herpetiformis. *J Exp Med.* 2002;195(6):747-757.
260. Bolotin D, Petronic-Rosic V. Dermatitis herpetiformis. Part II. Diagnosis, management, and prognosis. *J Am Acad Dermatol.* 2011;64(6):1027-33; quiz 1033-4. doi:10.1016/j.jaad.2010.09.776.
261. Collin P, Salmi TT, Hervonen K, et al. Dermatitis herpetiformis: a cutaneous manifestation of coeliac disease. *Ann Med.* 2017;49(1):23-31. doi:10.1080/07853890.2016.1222450.
262. Leffler DA, Green PHR, Fasano A. Extraintestinal manifestations of coeliac disease. *Nat Rev Gastroenterol Hepatol.* 2015;12(10):561-571. doi:10.1038/nrgastro.2015.131.
263. Salmi TT, Hervonen K, Kautiainen H, et al. Prevalence and incidence of dermatitis herpetiformis: a 40-year prospective study from Finland. *Br J Dermatol.* 2011;165(2):354-359. doi:10.1111/j.1365-2133.2011.10385.x.
264. Krishnareddy S, Lewis SK, Green PH. Dermatitis herpetiformis: clinical presentations are

- independent of manifestations of celiac disease. *Am J Clin Dermatol.* 2014;15(1):51-56. doi:10.1007/s40257-013-0051-7.
265. Zingone F, Bucci C, Tortora R, et al. Body mass index and prevalence of skin diseases in adults with untreated coeliac disease. *Digestion.* 2009;80(1):18-24. doi:10.1159/000214635.
266. Di Stefano M, Jorizzo RA, Veneto G, et al. Bone mass and metabolism in dermatitis herpetiformis. *Dig Dis Sci.* 1999;44(10):2139-2143.
267. Lewis NR, Logan RFA, Hubbard RB, West J. No increase in risk of fracture, malignancy or mortality in dermatitis herpetiformis: a cohort study. *Aliment Pharmacol Ther.* 2008;27(11):1140-1147. doi:10.1111/j.1365-2036.2008.03660.x.
268. Hervonen K, Viljamäki M, Collin P, et al. The occurrence of type 1 diabetes in patients with dermatitis herpetiformis and their first-degree relatives. *Br J Dermatol.* 2004;150(1):136-138.
269. Grainge MJ, West J, Solaymani-Dodaran M, et al. The long-term risk of malignancy following a diagnosis of coeliac disease or dermatitis herpetiformis: a cohort study. *Aliment Pharmacol Ther.* 2012;35(6):730-739. doi:10.1111/j.1365-2036.2012.04998.x.
270. Hervonen K, Alakoski A, Salmi TT, et al. Reduced mortality in dermatitis herpetiformis: a population-based study of 476 patients. *Br J Dermatol.* 2012;167(6):1331-1337. doi:10.1111/j.1365-2133.2012.11105.x.
271. Huber C, Trüeb RM, French LE, Hafner J. Negative direct immunofluorescence and nonspecific histology do not exclude the diagnosis of dermatitis herpetiformis Duhring. *Int J Dermatol.* 2013;52(2):248-249. doi:10.1111/j.1365-4632.2011.04909.x.
272. Antiga E, Verdelli A, Calabro A, et al. Clinical and immunopathological features of 159 patients with dermatitis herpetiformis: an Italian experience. *G Ital Dermatol Venereol.* 2013;148(2):163-169.
273. Hietikko M, Hervonen K, Salmi T, et al. Disappearance of epidermal transglutaminase and IgA deposits from the papillary dermis of patients with dermatitis herpetiformis after a long-term gluten-free diet. *Br J Dermatol.* 2018;178(3):e198-e201. doi:10.1111/bjd.15995.
274. Paek SY, Steinberg SM, Katz SI. Remission in dermatitis herpetiformis: a cohort study. *Arch Dermatol.* 2011;147(3):301-305. doi:10.1001/archdermatol.2010.336.
275. Willsteed E, Lee M, Wong LC, Cooper A. Sulfasalazine and dermatitis herpetiformis. *Australas J Dermatol.* 2005;46(2):101-103. doi:10.1111/j.1440-0960.2005.00152.x.
276. Shah SA, Ormerod AD. Dermatitis herpetiformis effectively treated with heparin, tetracycline and nicotinamide. *Clin Exp Dermatol.* 2000;25(3):204-205.
277. Hervonen K, Salmi TT, Ilus T, et al. Dermatitis Herpetiformis Refractory to Gluten-free Dietary Treatment. *Acta Derm Venereol.* 2016;96(1):82-86. doi:10.2340/00015555-2184.
278. Albers LN, Zone JJ, Stoff BK, Feldman RJ. Rituximab Treatment for Recalcitrant Dermatitis Herpetiformis. *JAMA dermatology.* 2017;153(3):315-318. doi:10.1001/jamadermatol.2016.4676.
279. Woo WK, McMillan SA, Watson RGP, et al. Coeliac disease-associated antibodies correlate with psoriasis activity. *Br J Dermatol.* 2004;151(4):891-894. doi:10.1111/j.1365-2133.2004.06137.x.
280. Birkenfeld S, Dreher J, Weitzman D, Cohen AD. Coeliac disease associated with psoriasis. *Br J Dermatol.* 2009;161(6):1331-1334. doi:10.1111/j.1365-2133.2009.09398.x.
281. Montesu MA, Dessì-Fulgheri C, Pattaro C, et al. Association between psoriasis and coeliac disease? A case-control study. *Acta Derm Venereol.* 2011;91(1):92-93. doi:10.2340/00015555-0960.

282. Tsoi LC, Spain SL, Knight J, et al. Identification of 15 new psoriasis susceptibility loci highlights the role of innate immunity. *Nat Genet*. 2012;44(12):1341-1348. doi:10.1038/ng.2467.
283. Addolorato G, Parente A, de Lorenzi G, et al. Rapid regression of psoriasis in a coeliac patient after gluten-free diet. A case report and review of the literature. *Digestion*. 2003;68(1):9-12. doi:10.1159/000073220.
284. Collin P, Reunala T. Recognition and management of the cutaneous manifestations of celiac disease: a guide for dermatologists. *Am J Clin Dermatol*. 2003;4(1):13-20. doi:10.2165/00128071-200304010-00002.
285. Bardella MT, Marino R, Barbareschi M, et al. Alopecia areata and coeliac disease: no effect of a gluten-free diet on hair growth. *Dermatology*. 2000;200(2):108-110. doi:10.1159/000018340.
286. Priovolou CH, Varderas AP, Papagiannoulis L. A comparative study on the prevalence of enamel defects and dental caries in children and adolescents with and without coeliac disease. *Eur J Paediatr Dent*. 2004;5(2):102-106.
287. Trotta L, Biagi F, Bianchi PI, et al. Dental enamel defects in adult coeliac disease: prevalence and correlation with symptoms and age at diagnosis. *Eur J Intern Med*. 2013;24(8):832-834. doi:10.1016/j.ejim.2013.03.007.
288. van Gils T, Brand HS, de Boer NKH, et al. Gastrointestinal diseases and their oro-dental manifestations: Part 3: Coeliac disease. *Br Dent J*. 2017;222(2):126-129. doi:10.1038/sj.bdj.2017.80.
289. Rashid M, Zarkadas M, Anca A, Limeback H. Oral manifestations of celiac disease: a clinical guide for dentists. *J Mich Dent Assoc*. 2011;93(10):42-46.
290. Hadjivassiliou M, Duker AP, Sanders DS. Gluten-related neurologic dysfunction. *Handb Clin Neurol*. 2014;120:607-619. doi:10.1016/B978-0-7020-4087-0.00041-3.
291. Losurdo G, Principi M, Iannone A, et al. Extra-intestinal manifestations of non-celiac gluten sensitivity: An expanding paradigm. *World J Gastroenterol*. 2018;24(14):1521-1530. doi:10.3748/wjg.v24.i14.1521.
292. Pennisi M, Bramanti A, Cantone M, et al. Neurophysiology of the "Celiac Brain"; Disentangling Gut-Brain Connections. *Front Neurosci*. 2017;11:498. doi:10.3389/fnins.2017.00498.
293. Briani C, Zara G, Alaiedini A, et al. Neurological complications of celiac disease and autoimmune mechanisms: a prospective study. *J Neuroimmunol*. 2008;195(1-2):171-175. doi:10.1016/j.jneuroim.2008.01.008.
294. Abenavoli L. Nervous system in the gluten syndrome: a close relationship. *Med Hypotheses*. 2010;74(1):204-205. doi:10.1016/j.mehy.2009.08.012.
295. Zis P, Rao DG, Sarrigiannis PG, et al. Transglutaminase 6 antibodies in gluten neuropathy. *Dig Liver Dis*. 2017;49(11):1196-1200. doi:10.1016/j.dld.2017.08.019.
296. Losurdo G, Principi M, Iannone A, et al. Extra-intestinal manifestations of non-celiac gluten sensitivity: An expanding paradigm. *World J Gastroenterol*. 2018;24(14):1521-1530. doi:10.3748/wjg.v24.i14.1521.
297. Hadjivassiliou M, Sanders DD, Aeschlimann DP. Gluten-related disorders: gluten ataxia. *Dig Dis*. 2015;33(2):264-268. doi:10.1159/000369509.
298. Hadjivassiliou M, Davies-Jones GAB, Sanders DS, Grünwald RA. Dietary treatment of gluten ataxia. *J Neurol Neurosurg Psychiatry*. 2003;74(9):1221-1224.

299. Hadjivassiliou M, Rao DG, Wharton SB, et al. Sensory ganglionopathy due to gluten sensitivity. *Neurology*. 2010;75(11):1003-1008. doi:10.1212/WNL.0b013e3181f25ee0.
300. Chin RL, Sander HW, Brannagan TH, et al. Celiac neuropathy. *Neurology*. 2003;60(10):1581-1585.
301. Hadjivassiliou M, Kandler RH, Chattopadhyay AK, et al. Dietary treatment of gluten neuropathy. *Muscle Nerve*. 2006;34(6):762-766. doi:10.1002/mus.20642.
302. Zis P, Sarrisannis PG, Rao DG, Hadjivassiliou M. Quality of Life in Patients with Gluten Neuropathy: A Case-Controlled Study. *Nutrients*. 2018;10(6):662. doi:10.3390/nu10060662.
303. Peltola M, Kaukinen K, Dastidar P, et al. Hippocampal sclerosis in refractory temporal lobe epilepsy is associated with gluten sensitivity. *J Neurol Neurosurg Psychiatry*. 2009;80(6):626-630. doi:10.1136/jnnp.2008.148221.
304. Canales P, Mery VP, Larrondo F-J, et al. Epilepsy and celiac disease: favorable outcome with a gluten-free diet in a patient refractory to antiepileptic drugs. *Neurologist*. 2006;12(6):318-321. doi:10.1097/01.nrl.0000250950.35887.6c.
305. Borhani Haghghi A, Ansari N, Mokhtari M, et al. Multiple sclerosis and gluten sensitivity. *Clin Neurol Neurosurg*. 2007;109(8):651-653. doi:10.1016/j.clineuro.2007.04.011.
306. Pengiran Tengah CDSNA, Lock RJ, Unsworth DJ, Wills AJ. Multiple sclerosis and occult gluten sensitivity. *Neurology*. 2004;62(12):2326-2327.
307. Yelland GW. Gluten-induced cognitive impairment ("brain fog") in coeliac disease. *J Gastroenterol Hepatol*. 2017;32 Suppl 1:90-93. doi:10.1111/jgh.13706.
308. Lichtwark IT, Newnham ED, Robinson SR, et al. Cognitive impairment in coeliac disease improves on a gluten-free diet and correlates with histological and serological indices of disease severity. *Aliment Pharmacol Ther*. 2014;40(2):160-170. doi:10.1111/apt.12809.
309. Casella S, Zanini B, Lanzarotto F, et al. Cognitive performance is impaired in coeliac patients on gluten free diet: a case-control study in patients older than 65 years of age. *Dig Liver Dis*. 2012;44(9):729-735. doi:10.1016/j.dld.2012.03.008.
310. Campagna G, Pesce M, Tatangelo R, et al. The progression of coeliac disease: its neurological and psychiatric implications. *Nutr Res Rev*. 2017;30(1):25-35. doi:10.1017/S0954422416000214.
311. Casella G, Pozzi R, Cigognetti M, et al. Mood disorders and non-celiac gluten sensitivity. *Minerva Gastroenterol Dietol*. 2017;63(1):32-37. doi:10.23736/S1121-421X.16.02325-4.
312. Wagner G, Zeiler M, Berger G, et al. Eating Disorders in Adolescents with Celiac Disease: Influence of Personality Characteristics and Coping. *Eur Eat Disord Rev*. 2015;23(5):361-370. doi:10.1002/erv.2376.
313. Ghalichi F, Ghaemmaghami J, Malek A, Ostadrahimi A. Effect of gluten free diet on gastrointestinal and behavioral indices for children with autism spectrum disorders: a randomized clinical trial. *World J Pediatr*. 2016;12(4):436-442. doi:10.1007/s12519-016-0040-z.
314. Kurppa K, Collin P, Mäki M, Kaukinen K. Celiac disease and health-related quality of life. *Expert Rev Gastroenterol Hepatol*. 2011;5(1):83-90. doi:10.1586/egh.10.81
315. van de Water JM, Mulder CJJ. Celiac disease: Assessment of quality of life. *Nat Rev Gastroenterol Hepatol*. 2009;6(4):204-205. doi:10.1038/nrgastro.2009.37.
316. Nachman F, del Campo MP, González A, et al. Long-term deterioration of quality of life in adult patients with celiac disease is associated with treatment noncompliance. *Dig Liver Dis*. 2010;42(10):685-691. doi:10.1016/j.dld.2010.03.004.

317. Häuser W, Janke K-H, Klump B, Gregor M, Hinz A. Anxiety and depression in adult patients with celiac disease on a gluten-free diet. *World J Gastroenterol.* 2010;16(22):2780-2787.
318. Roos S, Kärner A, Hallert C. Gastrointestinal symptoms and well-being of adults living on a gluten-free diet: a case for nursing in celiac disease. *Gastroenterol Nurs.* 2009;32(3):196-201. doi:10.1097/SGA.0b013e3181a85e7b.
319. van Koppen EJ, Schweizer JJ, Csizmadia CGDS, et al. Long-term health and quality-of-life consequences of mass screening for childhood celiac disease: a 10-year follow-up study. *Pediatrics.* 2009;123(4):e582-8. doi:10.1542/peds.2008-2221.
320. Kolsteren MM, Koopman HM, Schalekamp G, Mearin ML. Health-related quality of life in children with celiac disease. *J Pediatr.* 2001;138(4):593-595. doi:10.1067/mpd.2001.111504.
321. Aziz I, Evans KE, Papageorgiou V, Sanders DS. Are patients with coeliac disease seeking alternative therapies to a gluten-free diet? *J Gastrointest Liver Dis.* 2011;20(1):27-31.
322. Shan L, Molberg Ø, Parrot I, et al. Structural basis for gluten intolerance in celiac sprue. *Science.* 2002;297(5590):2275-2279. doi:10.1126/science.1074129.
323. Greco L, Gobbetti M, Auricchio R, et al. Safety for patients with celiac disease of baked goods made of wheat flour hydrolyzed during food processing. *Clin Gastroenterol Hepatol.* 2011;9(1):24-29. doi:10.1016/j.cgh.2010.09.025.
324. Lähdeaho M-L, Kaukinen K, Laurila K, et al. Glutenase ALV003 attenuates gluten-induced mucosal injury in patients with celiac disease. *Gastroenterology.* 2014;146(7):1649-1658. doi:10.1053/j.gastro.2014.02.031.
325. Murray JA, Kelly CP, Green PHR, et al. No Difference Between Latiglutinase and Placebo in Reducing Villous Atrophy or Improving Symptoms in Patients With Symptomatic Celiac Disease. *Gastroenterology.* 2017;152(4):787-798.e2. doi:10.1053/j.gastro.2016.11.004.
326. König J, Holster S, Bruins MJ, Brummer RJ. Randomized clinical trial: Effective gluten degradation by Aspergillus niger-derived enzyme in a complex meal setting. *Sci Rep.* 2017;7(1):13100. doi:10.1038/s41598-017-13587-7.
327. Tack GJ, van de Water JMW, Bruins MJ, et al. Consumption of gluten with gluten-degrading enzyme by celiac patients: a pilot-study. *World J Gastroenterol.* 2013;19(35):5837-5847. doi:10.3748/wjg.v19.i35.5837.
328. Korponay-Szabo IR et al. Food-grade gluten degrading enzymes to treat dietary transgressions in coeliac adolescents. *Journal of Pediatric Gastroenterology and Nutrition;* 43th Annual Meeting of ESPGHAN; Istanbul. 2010:E682010.
329. Leffler DA, Kelly CP, Abdallah HZ, et al. A randomized, double-blind study of larazotide acetate to prevent the activation of celiac disease during gluten challenge. *Am J Gastroenterol.* 2012;107(10):1554-1562. doi:10.1038/ajg.2012.211.
330. Kelly CP, Green PHR, Murray JA, et al. Larazotide acetate in patients with coeliac disease undergoing a gluten challenge: a randomised placebo-controlled study. *Aliment Pharmacol Ther.* 2013;37(2):252-262. doi:10.1111/apt.12147.
331. Leffler DA, Kelly CP, Green PHR, et al. Larazotide acetate for persistent symptoms of celiac disease despite a gluten-free diet: a randomized controlled trial. *Gastroenterology.* 2015;148(7):1311-9.e6. doi:10.1053/j.gastro.2015.02.008.
332. Molberg O, McAdam S, Lundin KE, et al. T cells from celiac disease lesions recognize gliadin epitopes deamidated in situ by endogenous tissue transglutaminase. *Eur J Immunol.* 2001;31(5):1317-1323. doi:10.1002/1521-4141(200105).
333. Kapoerchan V V, Wiesner M, Hillaert U, et al. Design, synthesis and evaluation of high-

- affinity binders for the celiac disease associated HLA-DQ2 molecule. *Mol Immunol.* 2010;47(5):1091-1097. doi:10.1016/j.molimm.2009.10.036.
334. Daveson AJM, Ee HC, Andrews JM, et al. Epitope-Specific Immunotherapy Targeting CD4-Positive T Cells in Celiac Disease: Safety, Pharmacokinetics, and Effects on Intestinal Histology and Plasma Cytokines with Escalating Dose Regimens of Nexvax2 in a Randomized, Double-Blind, Placebo-Controlled Phase 1 Study. *EBioMedicine*. 2017;26:78-90. doi:10.1016/j.ebiom.2017.11.018.
335. Daveson AJ, Jones DM, Gaze S, et al. Effect of hookworm infection on wheat challenge in celiac disease--a randomised double-blinded placebo controlled trial. Gluud LL, ed. *PLoS One*. 2011;6(3):e17366. doi:10.1371/journal.pone.0017366.